AF/IFW

OIPE IAP28
DEC 10 2007
PATENT & TRADEMARK OFFICE

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify that this document is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date set forth below.

Sandra K. [illegible]
(signature)
Date of signature and deposit - December 5, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
David P. Huber, et al.

Serial No. 10/684,318

Filed: October 11, 2003

For: PROCESS FOR FORMING AN INTERNALLY SPLINED PART

Group Art Unit: 3679

Examiner: Victor L. MacArthur

Attorney Docket 1-36569

December 5, 2007

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Honorable Sir:

In the Examiner's Answer mailed October 9, 2007, the Examiner raised certain new points of argument. Accordingly, this Reply Brief is being filed in response to the Examiner's Answer.

Respectfully submitted,

J. Douglas Miller
Reg. No. 46,932

Fraser Clemens Martin & Miller LLC
28366 Kensington Lane
Perrysburg, Ohio 43551-4163
(419) 874-1100

JDM/JMW

STATUS OF CLAIMS

Claims 1-4, 7, 17, and 18 are pending in the application. Claims 5 and 6 have been canceled. Claims 8-16 have been withdrawn. Claims 1-4, 7, 17, and 18 stand rejected are now under appeal.

GROUNDS OF REJECTION

Issues:

Whether Claims 1 – 4, 17, and 18 are unpatentable under 35 U.S.C. § 102(b), as being anticipated by Mancuso et al. (U.S. Patent No. 6,026,700)?

Whether Claim 7 is unpatentable 35 U.S.C. 103(a) as being obvious over Mancuso et al. (U.S. Patent No. 6,026,700) in view of Mangas et al. (U.S. Patent No. 4,716,276)?

ARGUMENT

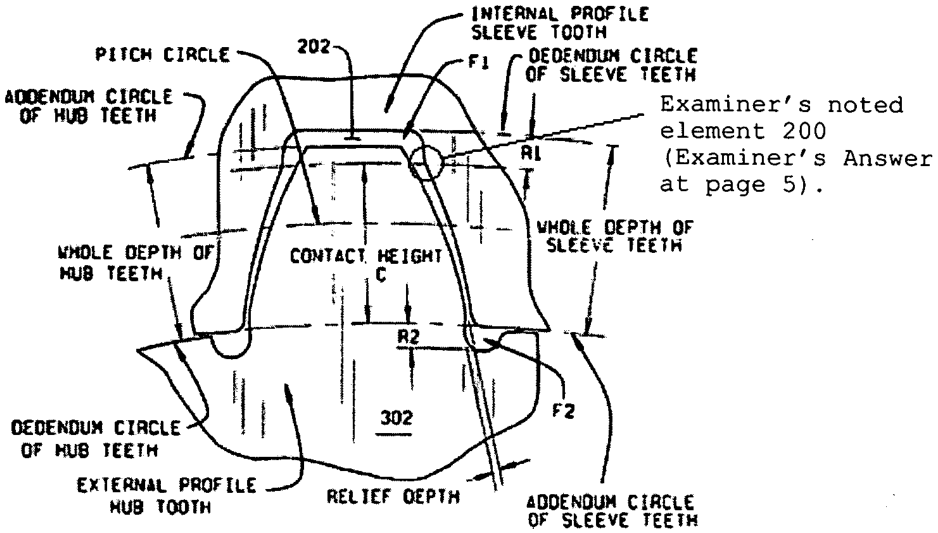
The Examiner has opined that "the rejection of Appellant's claims does not rely on relief R1 or fillet F1; but rather relies [on an] element 200 as noted on the [Examiner's marked-up FIG. 16 from Mancuso et al.] to be the small raised portions adapted to contact the surface of a corresponding body." (Examiner's Answer at page 5).

Appellants' Claim 1 recites:

1. A splined component for transmitting torque comprising:
a main body of formable metal and having a longitudinal axis;
a plurality of spaced apart splines of formable metal being generally parallel to the longitudinal axis of and extending from said body and being projections on said body **that cooperate with slots on a corresponding shaft** enabling cooperative rotation; and
a plurality of small raised portions of said formable metal **extending away from said main body** and being generally parallel to the axis of said body, **at least one of said raised portions adapted to contact the surface of a corresponding body**, said splines, raised portions, and body are integral and homogenous.

(Emphasis added)

It is submitted that the element noted by the Examiner on the marked-up FIG. 16 of Mancuso et al. is not a small raised portion extending away from the main body. For comparison, the original FIG. 16 of Mancuso et al., showing fillet F1 adjacent Examiner's noted element 200, and Appellants' FIGS. 5A - FIG. 7 showing small raised portions 34, 34', 34", are reproduced below.


INTERNAL PROFILE SLEEVE TOOTH
PITCH CIRCLE
202
F1
DEDENDUM CIRCLE OF SLEEVE TEETH
ADDENDUM CIRCLE OF HUB TEETH
R1
WHOLE DEPTH OF HUB TEETH
CONTACT HEIGHT C
WHOLE DEPTH OF SLEEVE TEETH
R2
302
F2
DEDENDUM CIRCLE OF HUB TEETH
EXTERNAL PROFILE HUB TOOTH
RELIEF DEPTH
ADDENDUM CIRCLE OF SLEEVE TEETH

Examiner's noted element 200 (Examiner's Answer at page 5).

FIG. 16

(Mancuso et al. FIG. 16, with Examiner's annotation added).

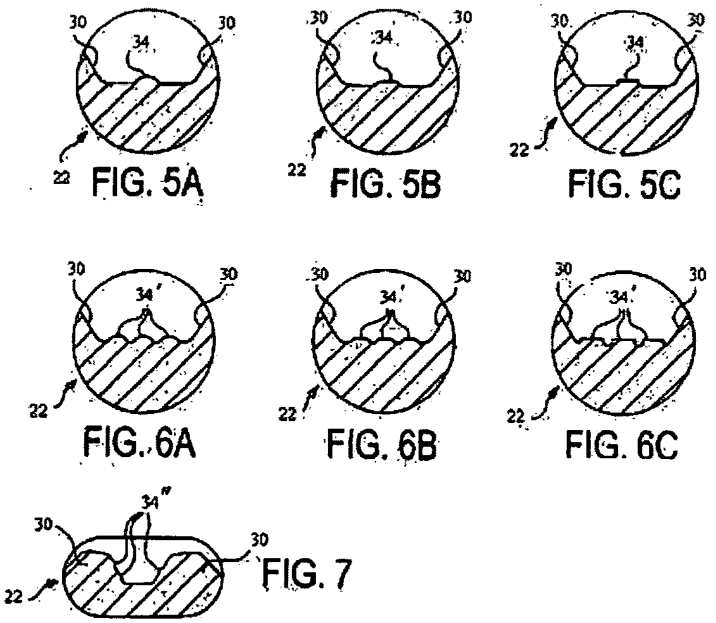


FIG. 5A FIG. 5B FIG. 5C

FIG. 6A FIG. 6B FIG. 6C

FIG. 7

(Huber et al. FIGS. 5A – FIG. 7).

The portion of the sleeve gear 200 that is pointed to by the Examiner is merely an edge of the fillet F1. The fillet F1 is a concave easing of the interior corners of the internal gear teeth 202. The fillet F1 allows for sufficient grinding clearance between the internal teeth 202 and the external gear tooth 302 of Mancuso et al. (Mancuso et al. at col. 8, lines 11-24; and FIG. 16). The fillet F1 is formed inwardly in the main body of the sleeve gear 200. The fillet F1 of Mancuso et al. is, in fact, a teaching away from the small raised portions of Appellants' invention. An edge of the fillet F1, misinterpreted by the Examiner as being the claimed small raised portions, also does not extend away from the main body of the Mancuso et al. sleeve gear 200. Instead, the element relied upon by the Examiner is disposed at, or even with, the surface of the sleeve gear 200. A plurality of small raised portions extending away from the main body is therefore not disclosed by Mancuso et al.

It is also submitted that the limitations of Claim 17, reciting that "said raised portions are disposed between said spaced apart splines", is not disclosed by Mancuso et al. The element relied upon by the Examiner as a teaching of small raised portions is not disclosed between the internal gear teeth 202. Instead, the element is disposed at the surfaces of the internal gear teeth 202. For this further reason, the limitations of Claim 17 are not disclosed by Mancuso et al.

The Examiner has also stated that Claim 1 functionally recites at least one of said raised portions ADAPTED to contact the surface of a corresponding body (emphasis added)" and therefore "does not impose any structural limitation upon the claimed apparatus." (Examiner's Answer at pages 5-6).

The determination of whether the term "adapted to" is a limitation in a claim depends on the specific facts of the case. Hoffer v. Microsoft Corp., 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005). (MPEP 2111.04). Courts have held that the limitation "members adapted to be positioned" serve to precisely define present structural attributes of interrelated component parts. In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976). (MPEP 2173.05(g). Appellants' claimed invention is a splined component having a plurality of small raised portions. The splined component is adapted to be mated with a corresponding shaft and at least one of small raised portions of the splined component contacts the surface of the shaft. Appellants' invention is not an assembly of a splined component and a corresponding shaft, but instead is solely the splined component. The claims positively recite the structure and the attributes of the small raised portion in relation to the interrelated corresponding body. The phrase "adapted to" provides a structural limitation because the structure of the small raise portions is a structure that contacts a corresponding body when the splined component cooperates with a corresponding shaft. Accordingly, the limitation of "a small raised portion adapted to contact the surface of a corresponding body" further distinguishes Claim 1 from the disclosure of Mancuso et al.

The Examiner has failed to establish a prima facie case of anticipation because Mancuso et al. does not disclose every limitation of the claims; namely, a plurality of small raised portions extending away form the main body and adapted to contact the surface of a corresponding body. Accordingly, Claim 1, and Claims 2 - 4, 7, 17, and 18 depending directly or indirectly therefrom are novel and patentable.

The Examiner has also maintained that Claim 7 is obvious over Mancuso et al. in view of Mangus et al. Mangus et al., cited as a teaching that splined components should preferably be made of aluminum, does not provide the limitations absent in Mancuso et al. Accordingly, Claim 7 is non-obvious and patentable over the combination of Mancuso et al. and Mangus et al.

CONCLUSION

For the foregoing reasons, and the reasons presented in the Brief on Appeal filed October 9, 2006 and subsequent Amended Briefs on Appeal, it is respectfully requested that this Honorable Board REVERSE the outstanding final rejections of Claims 1 – 4, 7, 17, and 18.